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ABSTRACT

A study examined the effects of controlling situational factors (i.e., instructional interventions) on reducing state anxiety level of low and high public speaking apprehensives. Subjects were 306 undergraduates enrolled in the basic public speaking course at a midwestern university during the 1988-1989 academic year. Situational factors tested were task difficulty, ambiguity reduction, acquaintance level, evaluation potential, familiarity, and stimulus duration. These factors were tested by manipulating the instructional format through which the initial public speaking assignment was structured. Results indicated support for several of the situational factors. It was demonstrated that speaking before half the class aroused less anxiety than speaking before the entire class, while a personal experience speech resulted in lower reported anxiety than the evidence speech. Speaking last on the assigned day also aroused less anxiety than speaking first, while a random speaking order and a speaking limit of 5 minutes each resulted in lower anxiety than the exact order and the 10-minute limit. Collectively, findings suggest that select interventions reduce public speaking anxiety of students enrolled in a basic public speaking class regardless of their prior communication apprehension level. (Two tables of data are included and 21 references are attached.) (MG)

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Classroom Interventions for Reducing Public Speaking Anxiety

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Abstract

The study examined the effects of controlling situational factors (i.e., instructional interventions) on reducing state anxiety level of low and high public speaking apprehensives. Situational factors tested were task difficulty, ambiguity reduction, acquaintance level, evaluation potential, familiarity, and stimulus duration. These factors were tested by manipulating the instructional format through which the initial public speaking assignment was structured. Results demonstrated support for several of the situational factors. The study concludes by recommending a set of critical outcomes through which to assess the long-term effects of anxiety reduction.

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Classroom Intervention for Reducing Public Speaking Anxiety

An increasing number of studies have focused on classroom remediation of apprehension and state anxiety associated with public speaking. There are several explanations for this shift to in-class methods as opposed to specialized out-of-class methods of treating communication apprehension (CA). As Hoffmann and Sprague (1982) report, fewer than ten percent of U.S. colleges and universities provide out-of-class specialized laboratory treatment. Furthermore, most instructors, as Booth-Butterfield (1988a) suggests, have neither the time nor the resources necessary to administer specialized treatment programs. Perhaps the best reason for in-class treatment is that it ensures the immediate application of learning methodologies (e.g., rhetoritherapy, cognitive restructuring) to the actual anxiety provoking stimulus. Thus, in-class treatment holds the potential to function as part of the instructional unit through which public speaking assignments are processed. Phillips (1982) best states the rationale for in-class treatment when he asserts that instructors of public speaking courses have a variety of methods for treating anxiety and attention should therefore be directed to developing a compendia of strategies which work under real classroom conditions.

The case for in-class treatment is further bolstered in findings on the effects of CA on classroom performance. McCroskey, Ralph, and Barrick (1970), in a study assessing the effectiveness of desensitization in reducing CA level, observed that several of the high CA's who enrolled in a public

speaking course actually withdrew from the class prior to their first speech. A study by Barnes (1976) further demonstrates the impact of CA level on speech performance. In this study, Barnes reported that high CA's often complete their public speaking course feeling more apprehensive about public speaking than when they entered the course. These studies support the importance of in-class attempts to reduce the anxiety level of high CA's as early as possible.

Several anxiety-reduction methods have been attempted in the public speaking classroom. These range from the typical model speech and videotaping of speeches to the use of interpersonal strategies designed to create a more comfortable learning environment for the anxious speaker. A recent study by Beatty (1988) employing a widely-used anxiety measure and controlling for prior apprehension found that audiotaping of "successful" model speeches actually increased high CA's anxiety level when they viewed the models prior to their assigned speech. Several studies have examined the effects of delivery skills training on anxiety reduction; most, however, have done so through out-of-class laboratory programs. A study by Neer and Kircher (1989) examined the effects of an in-class delivery skills instructional unit on anxiety reduction. The principal finding of this study was that administration of the delivery instruction unit resulted in lower CA scores at the end of the course when the delivery training was provided to students prior to their first speech and higher CA scores when the training was completed after the first speech in the course.

The Beatty and the Neer and Kircher studies are important because they suggest that often assumed pedagogical wisdom may not always hold true. That is, many instructors may incorporate model speeches within their

instructional units to assist students in preparing their own speeches. This practice may prove to be useful for most students. High CA students, however, may interpret model speeches as examples they cannot perform especially if they have little or no previous speaking experience. Some instructors also may deemphasize delivery mechanics until after the initial speaking assignment on the assumption that prior delivery instruction may further increase performance anxiety by focusing students' attention on their own delivery skill. Yet, neither of these assumptions has proven to be true. Thus, additional research on other often-used interventions appears warranted in order to determine whether these anxiety-reducing strategies function as assumed.

Another line of research has shifted the focus from public speaking interventions to classroom interventions that are designed to create a more comfortable and less anxiety arousing classroom context in which students learn basic public speaking principles. One of these studies (Connell & Borden, 1987) found a positive effect for self-disclosure on reduction of trait CA. This, study, however, manipulated disclosure (small group team meetings once a week for six weeks) within a larger instructional unit that also included cognitive restructuring and desensitization. Results indicated that students exposed to the small group teams experienced a greater decrease in CA than students not exposed to the disclosure manipulation. The use of small groups represents one manipulation of acquaintance-level or increasing familiarity among students. Familiarity is one of several situational factors originally identified by Buss (1980) and McCroskey (1984) as increasing state-anxiety reactions.

Booth-Butterfield (1988a) also manipulated acquaintance level and found

that high CA's reported less state anxiety and communication avoidance when working with friends (high acquaintance) than when working with strangers (low aquaintance). Booth-Butterfield concludes by recommending that instructors permit students to work together in order to increase familiarity and informality in the classroom. Situational factors have been manipulated in at least one other study. In this study, Booth-Butterfield (1986) demonstrated that high CA's exhibited fewer behavioral disruptions (i.e., pausing, silence, disfluencies) when performing getting-acquainted exercises involving low evaluation potential (optional and private videotaping of the exercise) over high evaluation potential (when students were informed that the videotaped exercise would be reviewed by departmental faculty for use as examples of dyadic communication in other courses). High CA's also exhibited fewer disruptions with the structured (i.e., clearly set instructions on how to conduct the getting-acquainted encounter) videotaping than with the unstructured videotaping in which students were permitted more freedom in conducting the encounter.

Purpose of Study

Findings from these studies demonstrate that instructors are able to structure the public speaking assignments in a course through instructional interventions that mediate situational factors contributing to state anxiety. The present study manipulated several additional interventions designed to moderate situational factors contributing to state anxiety. The interventions were tested by creating cover stories that described various instructional formats through which the first required speech in a basic public speaking course would be structured or processed. Respondents did not participate in actual in-class manipulations but were instructed

to rate their perceived state anxiety if their first required speech was structured in the manner described within each cover story.

Thus, the primary purpose of this study was to generate a list of interventions that instructors may incorporate into the classroom with sufficient confidence that each will function as intended in reducing state anxiety. Support for perceptual manipulations will certainly require confirmation through in-class manipulation. However, that process may best be served by first validating a list of perceptual-based manipulations that narrow the list of interventions to those that have been found to affect perceived anxiety, especially since an extremely large number of interventions could be tested as candidates for in-class treatment.

The instructional interventions used to manipulate the situational factors examined in this study were derived through prior testing of CA's self-reports of classroom methods they most preferred their instructors employ to reduce discomfort with public speaking. A series of studies by Neer and his colleagues (Neer, Hudson, & Warren, 1982a; Neer, Hudson, & Warren, 1982b; Neer & Kircher, 1984) reveal that CA's report increased comfort with each of the interventions tested in this study (see manipulation section).[1]

Hypotheses

Prior research examining the influence of situational factors supports investigation of the interventions in this study. The hypotheses assert that manipulation of classroom situational factors will have a subsequent impact on anxiety level.

H1. All respondents, regardless of prior CA level, will report lower levels of state anxiety when public speaking in structured to reduce evaluation potential, audience size,

task difficulty, stimulus duration, and ambiguity reduction and to increase acquaintance level and familiarity.

H2. High CA's will report higher anxiety than low CA's when public speaking is structured to increase evaluation potential, audience size, task difficulty, and ambiguity reduction and to decrease acquaintance level and familiarity.

Method

Respondents

Respondents were 306 (Female = 60%, Age range = 17-33, Median = 19.2) undergraduates enrolled in the basic public speaking course at a midsize, midwestern university during the 1988-1989 academic year. Respondents completed the CA measure and responded to the public speaking cover stories containing the manipulations in randomized order to guard against order effects. Order effects were not observed between that half of the sample completing the CA measure first and that half who completed the CA measure after responding to the cover stories.

CA Measure

CA was measured with the Personal Report of Public Speaking Apprehension (PRPSA) (McCroskey, 1970). This form was selected since it measures exclusively public speaking CA. The alpha estimate for the PRPSA was .90 in this study. Descriptive statistics revealed a grand mean of 109.46 and standard deviation of 20.11.

Manipulations

Five public speaking situations were manipulated as tests of the situational factors tested in this study. Each situation manipulated one level each of two situational factors. Thus, no situation simultaneously tested

every one of the factors tested. Instead, respondents read only one level of each of the two factors (low or high) across each of the five situations. Immediately after reading the cover story for each situation, respondents rated their anxiety to that situation before reading each of the remaining cover stories in which additional situational factors were manipulated. Each situation defined a procedure for structuring either the preparation phases of the speech or structuring the actual presentation of the speech. The situations are described below.

Situation 1 (Audience size x Evaluation potential): The cover story informed students that their first speech would be delivered to half the class (low or small audience) or to the entire class (high or large). In addition to manipulating audience size, evaluation potential was manipulated by describing the first speech as delivered in either the presence (high) or the absence (low) of the instructor. That is, either the instructor or the class would grade the speech.

Situation 2 (Acquaintance level x Task difficulty): Acquaintance level was manipulated by placing the class within the same (high) or different (low) small group of students once a week over a three week period to practice public speaking activities and to practice their speech prior to its class presentation. Task difficulty was manipulated by requiring students to deliver either a personal experience speech (low) or an evidence speech (high) in which they would be required to statistically document the main points of their speech.

Situation 3 (Acquaintance level x familiarity): Two levels of acquaintance level were manipulated by placing the class within dyads (high) or small groups (low) to practice their speech one week prior to its presentation

in class. Familiarity was manipulated by informing students they would be required to deliver their first speech on either the first (low) or the last (high) assigned speaking date.

Situation 4 (Ambiguity reduction x stimulus duration): Ambiguity reduction was manipulated by informing students that on the date they were assigned to speak the instructor would either call on studnets at random to speak (low) or would provide an exact speaking order before starting the speeches for that day (high). Stimulus duration consisted of speaking for a required ten minutes (high) or five minutes (low).

Situation 5 (Stimulus duration x Audience size): Stimulus duration was manipulated similarly to situation 4 and audience size was manipulated similarly to situation 1.

Operationalization of the Manipulations

A rationale for assigning the situational factor labels to the interventions should briefly be elaborated in order to demonstrate their manipulation is consistent with the theoretical conceptualizations of Buss (1980) and McCroskey (1984). Evaluation potential, as manipulated here, assumes that being graded by classmates--although potentially anxiety arousing--should be less arousing than being graded by the instructor. Level of familiarity also is manipulated consistent with previous theoretical conceptualizations, That is, speaking on the last assigned speaking date may provide students with additional information for preparing their own speeches after they have observed other speeches. In otherwords, speaking on the last day should offer models for students in selecting appropriate topics and methods of introduction. Furthermore, speaking on the first day also may increase the perception of being the center of attention. That is, those speaking on the first day may

feel more conspicuous since speaking first may increase audience attention and curiosity due to the novelty value attached to the first round of speeches.

The evidence speech was defined as high task difficulty because it required statistical documentation as proof for main points. The personal experience speech, on the otherhand, represents low task difficulty in that the only form of proof required is the development of a personal experience or story as illustration of the main points of the speech. Thus, the evidence speech should be perceived as more difficult to execute, especially with the requirement that the statistical proof meet the various tests of evidence or not be incorporated into the speech. The two manipulations of stimulus duration are not specifically spelled out in theoretical conceptualizations of situational factors. However, duration or a longer required speaking time should increase anticipated anxiety since speaking for ten minutes also should increase the perception of both task difficulty (i.e., having sufficient information for ten minutes) and conspicuousness or occupying the center of attention for a longer period of time.

Audience size has not been isolated as a situational factor contributing to public speaking anxiety. However, it was tested on the assumption that as audience size increases so, too, should the perception of conspicuousness. On the otherhand, as audience size decreases, the classroom may be perceived as more informal by students. Providing students with an exact speaking order was defined as high ambiguity reduction since the random order should increase anticipation of being called on to speak "on the spot" without prior knowledge or the opportunity to volunteer when ready. Collectively, these interventions were selected because each represents a realistic method

of structuring the initial public speaking assignment. Furthermore, these interventions were selected because each may be unobtrusively employed in the classroom without focusing special attention on high CA's and thereby run the risk of further increasing their level of conspicuousness.

Dependent Measures

State anxiety reactions to each of the five situations were measured with the five-item short version (O'Neil, Spielberger, & Hansen, 1969) of the STAI (A-State) anxiety scale (Spielberger, Gorsuch, & Lushene, 1970). The items were: I feel tense, I feel calm, I feel relaxed, I feel at ease, and I feel jittery. The scale was administered to respondents on five repeated occasions--once after reading each situation. Ratings are recorded on four-point scales and are then summed to create a composite score from five (low anxiety) to twenty (high anxiety). Alpha estimates ranged from .86 to .89 across the five situations.

Pilot Testing

The five contexts were pilot tested on a sample of 46 respondents enrolled in a basic course similar to the one that respondents in this study were enrolled. Pilot testing was conducted to confirm that the interventions reflected the situational factors they were intended to manipulate. Respondents rated both levels of all manipulations on 7-point bipolar scales. All manipulations were confirmed through overall mean ratings. For instance, evaluation potential (i.e., I feel the instructor will evaluate me more difficulty than students in this situation) was rated higher when the instructor was present (6.00) than when only the class was present to grade the first speech (4.22). Also, stimulus duration was rated more anxiety-arousing (i.e., I would feel more anxious speaking for ten minutes than I

would speaking for five minutes) with the ten minute speech (6.12) than the five minute speech (4.48). The evidence speech also was rated as being more difficult a task to accomplish (i.e., I would find it difficult to select support for this speech) than the personal experience speech (5.81 vs. 4.11). Remaining manipulations yielded significant mean differences between .91 and 1.46.

The manipulations also were validated through tests of mean difference between low and high CA's. For instance, ambiguity reduction yielded the following statistics: ($F = 9.65$, Low CA = 4.50, High CA = 6.64, $p < .006$, eta = .37). That is high CA's felt they had "less control and predictability" when the instructor used a random speaking order over an exact order. Remaining manipulations also yielded significant mean differences ranging from 1.30 to 1.96. The only manipulations failing to yield significance were acquaintance level ($p < .07$) and familiarity ($p < .09$).[2]

Analysis

The five situations were analyzed separately through 2 x 2 x 2 analysis of variance designs. Two levels of prior apprehension (low and high) were combined with the two interventions manipulated within each situation.[3] Separate ANOVA models were selected over a singular, pooled model since the five contexts were each manipulated differently thus rendering a repeated measures design inappropriate. Intracorrelations among the five anxiety scores ranged from .41 to .57. Thus, although the STAI demonstrated internal consistency within each situation, anxiety reactions differed across the five situations. Since intracorrelations were only moderate in nature, anxiety scores for each of the five situations were analyzed separately rather than collapsed into a single anxiety composite score.

Results

Apprehension revealed a significant main effect across all five public speaking situations. F-ratios ranged from 60.70 to 97.70 with mean differences between low and high CA's ranging from 4.24 to 7.05 across the five situations. These findings revealed that high CA's reported higher anxiety level to all five situations independent of the manipulated interventions.

Main effects also revealed that several of the interventions yielded ANOVA significance (see Table 1). Findings demonstrated that speaking before half the class aroused less anxiety than speaking before the entire class while a personal experience speech resulted in lower reported anxiety than the evidence speech. Speaking last on the assigned day also aroused less anxiety than speaking first while a random speaking order and a speaking limit of five minutes each resulted in lower anxiety than the exact order and the ten minute limit. Collectively, these findings indicate that select interventions reduce public speaking anxiety of students enrolled in a basic public speaking class regardless of their prior CA level.

Table 1 here

While main effects for the interventions hold potentially useful information to the general structuring of the first required speech, they do not provide specific information regarding the effects of prior CA on state anxiety. Thus, the primary interest in this study lies in examining the interaction between CA level and the interventions. Interaction effects were observed between CA level and two instructional interventions. The first situation (Audience size x Evaluation potential) yielded a significant two-way interaction between CA and audience size and CA and evaluation potential.

As Table 2 reveals, high CA's reported less anxiety when their first speech is delivered to half the class and when the instructor is not present to grade the speech.

Table 2 here

Interaction effects also approached significance with the fourth public speaking situation (Ambiguity reduction x Stimulus duration). These findings revealed an interaction for CA and ambiguity reduction. That is, low CA's reported lower anxiety with a random speaking order (Random = 10.87, Exact = 13.51) while high CA's reported similar levels of anxiety (Random = 17.00, Exact = 17.41) regardless whether a random or an exact speaking order was used by the instructor ($F = 3.16$, $eta^2 = .05$, $p < .065$). While interaction effects were observed , F-ratios were considerable larger for CA than for the interventions. Thus, CA level functions as a stronger predictor of anxiety level than the interventions.

These findings prompted an examination of eta-squared coefficients between the raw score CA composite and the interventions. The raw score CA composite was first correlated with each of the five anxiety composites. Multiple corelation and r-squared values for the five situations were: (1) $MR = .62$, $r^2 = .38$, (2) $MR = .58$, $r^2 = .34$, (3) $MR = .55$, $r^2 = .30$, (4) $MR = .60$, $r^2 = .36$, and (5) $MR = .64$, $r^2 = .41$. P-levels were significant beyond the .001 level for all five situations and F-ratios ranged from 62.13 to 100.25. These results compare favorable to other studies which report that CA accounts for between 44 and 47 percent of the variance in anxiety scores (Booth-Butterfield, 1988a; McCroskey, 1984).

Adjusted eta-squared coefficients (adjusted for CA level) were next

examined for the interventions. Several of the interventions accounted for a substantial portion of variance in anxiety scores. Ambiguity reduction (speaking order) accounted for nearly as much variance (.21) as CA (.30) in situation 3. Situations 1 and 2 reveal that CA accounted for slightly over one-third more variance than the interventions while CA accounted for nearly three times as much variance as the interventions in situation 5 (41 vs. 15 percent). However, situation 4 reveals that the combined variance of the two interventions nearly equals that of CA level (36 vs. 33 percent). Interaction effects accounted for a relatively small portion of variance. Thus, the interactions do not account for nearly as much variance as do main effects.

Discussion

Findings in this study provide partial support for both hypotheses. First, main effect significance, independent of CA level, was observed for half the interventions tested while only two situational factors failed to yield significance (i.e., familiarity and acquaintance level). However, only two of the interventions interacted with prior CA to influence state anxiety. Thus, findings in this study provide stronger support for H1. than for H2. Still, it should be noted that the interventions do not eliminate anxiety level of either low or high CA's. Instead the interventions function to moderate anxiety level. For instance, main effect mean ratings for anxiety were generally above 12.00 for both low and high CA's. And, interaction effect mean scores above 12.00 were observed across all five situations. Since the STAI ceiling score is 20.0 and the floor score is 5.00, the situations tested in this study all aroused moderate anxiety for low CA's and generally high anxiety for high CA's. Interaction of CA with the

interventions further demonstrated limited support for H2. with the following qualification: one intervention (audience size x evaluation potential) functions as predicted in reducing state anxiety level from extremely high to moderately high for high CA's and reducing anxiety level of low CA's from moderately high to moderate.

Findings in this study therefore warrant the conclusion that several of the interventions provide potentially useful pedagogical information on ways to structure the initial public speaking assignment to reduce anxiety level of beginning speakers including both low and high CA students. Situation 1 in particular reveals that anxiety is reduced when the instructor does not grade the first speech and when high CA's deliver the speech to just half the class. This finding could easily be incorporated into the classroom with minimal disruption to traditional methods of structuring speech assignments. For instance, the instructor may divide the class in half to deliver a trial run of the first required speech before presenting it to the entire class. Potential grade inflation via student evaluation may be minimized by assigning the trial run fewer points than other assignments. The instructor may exercise the option of not assigning a point value to the trial run speech. However, as Booth-Butterfield (1988a) has demonstrated, performance motivation and anxiety reduction are positively influenced by reward value (i.e., number of points awarded) associated with an assignment. Thus, awarding the trial run a small percentage of points may reduce anxiety by increasing performance motivation.

Findings for remaining public speaking situations failed to consistently yield significant interaction effects between CA and the interventions. However, it should be noted that acquaintance level did not reduce anxiety

level as other studies report. It is possible that high CA's did not become better acquainted with classmates but experienced increased evaluation potential by virtue of focusing their interaction on public speaking activities. Thus, getting-acquainted activities appear to reduce anxiety, as Booth-Butterfield (1986) reports, when interaction involves low difficult tasks and is not intended to provide feedback on speech performance. As Booth-Butterfield (1988a) further reports, anxiety reduction is a function of informal class interaction. It therefore appears that the small group and dyadic "speech consultant team" intervention is not perceived as being informal and unstructured. Instead, the team concept is interpreted as being task-centered rather than interpersonal or social-centered.

One further qualification to findings in this study should be stated. Beatty, Balfantz, and Kuwabara (1989) recently demonstrated that several situational factors appear to better function as predispositional factors. Their findings indicated that all situational factors, with the exception of novelty, significantly correlated with two performance evaluations separated by a five-week time frame. The authors argue that if these factors were situational in nature they should not have correlated with the second performance evaluation. It also could be argued that if the conditions that trigger situational anxiety are not removed from the classroom, then repeated performances will provoke similar anxiety reactions unless effective interventions are implemented to moderate these conditions. Since the present study was conducted at the beginning of the semester, any conclusion regarding the stability of situational factors will need to incorporate midsemester testing to answer this question. That is, retesting at midsemester should determine whether interventions used at the beginning of the

semester function to alleviate anxiety as well as impact on subsequent speech performance.

Nonetheless, findings in the present study support those of Beatty et al. That is, removing situational factors inherent in the classroom (e.g., reducing speaking time limit from ten to five minutes and requiring the less difficult personal experience speech over the evidence speech), particularly stimulus duration and task difficulty, may not result in subsequent changes in state anxiety levels for high CA's as this study has demonstrated. Thus, these factors may function as stable predispositions across communication performance situations regardless whether instructional interventions to reduce situational causes of anxiety are attempted. The only exception rests with evaluation potential and audience size. Whether the same is true of acquaintance level will require manipulating this factor in a manner more consistent with the Booth-Butterfield study (1988a).

The next step to assessing the pedagogical value of these and other interventions is determining whether they impact on speech performance grades and result in higher grades on subsequent speech assignments in a basic course. Recent studies suggest that controlling situational factors lowers anxiety level. Few studies, however, have established whether reducing anxiety improves initial as well as subsequent speech performance. The issue is particularly important in light of Phillips' (1977) claim that some degree of anxiety is necessary because it functions as a powerful source of motivation for performance. Thus, developing a compendia of classroom interventions should proceed with the understanding that the purpose of any intervention is not to eliminate anxiety. Instead, intervention strategies should be viewed as a means of reducing anxiety to a

level that is interpreted by students as a (normal and essential) catalyst for motivating performance rather than interfering with their ability to perform.

Booth-Butterfield's (1988a) recent manipulation of situational factors provides support for this claim. Booth-Butterfield demonstrated that assigning a higher grade percentage to an assignment reduces anxiety associated with dyadic interaction. Neer and Hudson (1981) reported a similar effect in their study of classroom apprehension. They reported that high CA's felt more comfortable leading a small group discussion than leading a discussion before the entire class. However, when asked to rate satisfaction level with their performance, high CA's leading a class discussion rated their performance more positively than high CA's who were only required to lead a small group discussion. The source of motivation in this study was audience size that presumably aroused more anxiety.

Communication educators should continue to establish which of their methods work, as Phillips (1982) insists, as well as why some methods work better than others to reduce anxiety. Answering this question of why some methods work better than others may be facilitated by developing criteria for determining the effectiveness of different interventions. For instance, along with improvement in speech performance, the following criteria may be useful in assessing the effectiveness of intervention strategies: (1) cognitive learning of communication methods, (2) confidence and comfort level in public speaking courses, (3) observable and self-reported improvements in competence levels, and (4) enrollment in advanced performance courses for the purpose of further improving upon speech performance. These criteria certainly do no exhaust those that communication educators might expect

to occur as a consequence of anxiety reduction (including long-term reduction in trait CA); however, they may help to establish a set of assessment outcomes that instructors may select in measuring the effectiveness of their interventions. Booth-Butterfield (1988b), for instance, has shown that high CA's retain less lecture information when placed in anxiety-arousing situations (e.g., when the class is informed that dyadic interaction will be required upon completion of a lecture). Thus, establishing a set of criteria for evaluating the effects of controlling situational factors may help instructors to identify those interventions that work best or those which best meet individual assessment outcomes.

In conclusion, this study has demonstrated that certain instructional interventions decrease the perceived state anxiety of both low and high CA students enrolled in a basic public speaking course. While some findings in this study confirm conventional pedagogical wisdom, several other findings in this study and in other studies (see footnote 1) also offer additional ways to structure the inital speaking assignment in a basic course. Select findings also appear to confirm the predispositional nature of certain situational factors. Thus, additional research based on a set of criteria-referenced outcomes associated with anxiety reduction may help in establishing which interventions moderate anxiety and on what level they do so. Understanding how situational factors are related to not only anxiety reduction but to other communication outcomes may help to provide additional information useful to defining the CA construct. And on a pedagogical level, instructors may better identify those interventions that help guard against the tendency for some CA's to either drop a required public speaking course before giving their first speech or leave the course even more apprehensive about speaking.

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Footnotes

[1]A complete checklist of interventions preferred by high CA's in these studies may be obtained by writing the first author. Several of these interventions, excluding those tested in this study, that positively influenced high CA's perceived comfort level include: (1) not having to follow an excellent speech, (2) not being graded on delivery mechanics for the first speech, (3) having the instructor approve the student's speech outline before speaking, (4) having the first speech consist of a small group report to the class, and (5) not videotaping the first speech. On the other hand, high CA's reported increased discomfort with the following interventions, some of which may be routinely used as anxiety-reduction techniques: (1) individual conferences with the instructor prior to the first speech, (2) viewing sample speeches before speaking, (3) lectures and exercises on speech organization, and (4) an ungraded practice speech prior to the first graded speech. Over fifty instructional interventions have been tested across these three studies.

[2]All manipulations also yielded significant correlations with CA when the PRPSA raw score was correlated with ratings for each of the interventions. Further information on the manipulations is available from the authors.

[3]A 25/25 split for low and high CA was selected for analysis in order to ensure adequate cell sizes of 75 and 74, respectively. This split differs from the conventional assignment of CA levels based on mean deviation. Thus, discriminant analysis was conducted in order to ensure the reliability of these range levels. Univariate F-ratios ranged from 19.61 to 439.61 for all 34 PRPSA items with half yielding F-ratios larger than 100 and only 20 percent under 30.0. The analysis resulted in a single significant function

(Eigenvalue = 11.94, %Variance = 100, Rc = .960, Wilks' = .077, $p < .001$) that correctly classified 100 percent of low and high CA's within their respective prior membership groups. Group centroids of -3.54 and 3.32 further reveal the reliability of the 25 percent breakpoint used in assigning PRPSA raw scores to the low and high CA groups. Moderate CA's were eliminated from analysis on a research reccommendation by McCroskey (1984) whose data demonstrates that the inclusion of moderate CA scores often masks significant differences between low and high CA's. McCroskey therefore suggests that CA be conceptualized as a categorical variable rather than a continuous variable.

[4]When all 306 respondents were included in the regression model, multiple correlations were reduced across all five situations (i.e., .49, .45, .51, .52, and .51). These results confirm McCroskey's (1984) suggestion that the inclusion of moderate CA's deflates the statistical significance between low and high CA's.

Table 1

Effects of the Interventions on Anxiety-Reduction

Intervention	SS/MS	Means	eta^2	F	P
Audience Size:	96.69		.20	11.47	.001
Half		14.37			
Entire		15.90			
Speaking Order:	86.23		.17	8.88	.003
Random		13.97			
Exact		15.41			
Type of Speech:	99.32		.29	10.34	.002
Personal		11.21			
Evidence		13.43			
Speaking Order:	111.61		.28	9.72	.002
First Day		14.46			
Last Day		12.06			
Speaking Limit:	64.61		.17	6.60	.010
5 Minutes		14.01			
10 Minutes		15.61			

Table 2

Interaction Effects for CA x Interventions

	SS/MS	Submeans[1]	eta[2]	F
CA x Audience Size (A)	33.79		.03	4.09**
low x entire class		13.26^{a}		
high x entire class		18.70^{abc}		
low x half class		12.63^{bcd}		
high x half class		16.07^{abcd}		
CA x Evaluation Potential (E)	41.84		.03	4.95*
low x instructor present		12.77^{a}		
high x instructor present		18.00^{abc}		
low x instructor not present		13.18^{bcd}		
high x instructor not present		16.53^{abcd}		
CA x A x E	10.56		.00	1.24

*p < .03
**p < .05

[1]superscripts represent statistically significant paired comparisons (Scheffe - method)